Amendments to the Specification

Amend paragraph [0001] as follows:

[0001] The <u>present</u> invention relates to a method for processing a moving workpiece, in particular a vehicle body which is moved <u>using by means of</u> a conveyor belt, according to the <u>present invention relates</u> to a processing system for carrying out this method.

Add the following <u>new</u> heading before paragraph [0002]:

BACKGROUND

Amend paragraph [0006] as follows:

[0006] The invention is thus based on the object of developing An object of the present invention is to develop the known method for robot-supported processing of a moving workpiece to the effect that a relative position of a robot-guided processing tool with respect to the moving workpiece, as far as the execution of the actual processing task, can be set and maintained by controlled processing. The invention is also based on the object of proposing Another alternate or additional object of the present invention is to propose a processing system which is suitable for carrying out the method.

Add the following new heading before paragraph [0006]:

SUMMARY OF THE INVENTION

Delete paragraph [0007].

Amend paragraph [0008] as follows:

[0008] According to the invention, the robot-guided processing tool is provided with a sensor system which is <u>fixedly permanently</u> connected to the processing tool. The processing tool is firstly moved under the control of a robot into what is referred to as a "proximity position" (permanently programmed and independent of the current position of the workpiece in the

working space of the robot) with respect to the workpiece. Starting from this proximity position, a closed-loop control process is run through, in the course of which the processing tool is moved into what is referred to as a "working position" in which the processing tool and/or an add-on part which is held in the processing tool is oriented in a precisely positioned fashion with respect to the workpiece. In the course of the closed-loop control process, (actual) measured values of selected reference areas are generated on the workpiece and/or on the add-on part by the sensor system, and these (actual) measured values are compared with (setpoint) measured values which have been generated in a preceding setup phase. The processing tool is then moved by an amount equal to a movement vector (comprising linear movements and/or rotations) which vector is calculated from a difference between the (actual) and (setpoint) measured values using what is referred to as a "Jacobi matrix" (or "sensitivity matrix"). Both the (setpoint) measured values and the Jacobi matrix are determined within the scope of a setup phase, preceding the actual positioning and mounting process, within the scope of which the processing tool is trained to the specific mounting task (i.e. a specific combination of processing tool, sensor system, vehicle body type and type and installation position of the add-on part to be used).

Add the following <u>new</u> heading before paragraph [0015]: BRIEF DESCRIPTION OF THE DRAWINGS

Amend paragraph [0015] as follows:

[0015] Further advantageous embodiments of the invention can be found in the subclaims. The invention is explained in more detail below with reference to an exemplary embodiment which is illustrated in the drawings, in which:

Add the following <u>new</u> heading before paragraph [0019]: DETAILED DESCRIPTION

Amend the following paragraphs [0019] and [0021]:

[0019] Figure 1a shows a plan view of a processing system 4 in which roof modules 3 are bonded into roof openings 2 in vehicle bodies 1. Vehicle bodies 1 are fed to the processing

system 4 on a conveyor belt 10 and are continuously conveyed on the conveyor belt 10 through the working space 6 of the processing system 4 (direction of arrow 11) during the mounting of the roof module. Each roof module 3 is fed in by a robot 7 and is provided in its edge region with a bonding agent run 29 through by means of which the roof module 3 is connected to the roof opening 2 in the vehicle body 1.

[0021] The mounting of the roof module 3 in the vehicle body 1 is carried out using a processing tool 5 which is guided by the industrial robot 7 and which places the roof module 3 on the moving vehicle body 1 and positions it precisely with respect to the roof opening 2 in the vehicle body 1. An open-loop control system 20 is provided for controlling the robot 7 and the processing tool 5 in terms of position and movement. The processing tool 5 is attached to the hand 12 of the industrial robot 7 and comprises a frame 13 to which a securing device 14 is attached and through by means of which the roof module 3 can be held in a well defined position. In the present exemplary embodiment, the securing device is formed by a plurality of under-pressure suction cups which engage on the upper side 22 of the roof module 3.